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NASA Procedural Requirements

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COMPLIANCE IS MANDATORY

NASA Environmental Compliance and Restoration (ECR) Program

Responsible Office: Environmental Management Division

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Preface

P.1 Purpose

This NPR describes required procedures for planning, programming, budgeting, and implementing NASA's ECR Program. This document outlines areas of responsibility by title and authority and delineates responsibility for data calls and required reporting.

P.2 Applicability

This NPR applies to NASA Headquarters and NASA Centers, including Component Facilities.

P.3 Authority

- a. The Budget and Accounting Procedures Act, 31 U.S.C. 3513a.
- b. The National Aeronautics and Space Act of 1958, section 203 (c) (1), as amended, 42 U.S.C. section 2473 (c) (1).
- c. The Budget and Accounting Procedures Act, 31 U.S.C., section 3513a.
- d. Policy on Environmental Quality and Control, 14 CFR, section 1216.1.
- e. NPD 8500.1, NASA Environmental Management.

P.4 References

- a. The National Aeronautics and Space Act of 1958, section 203 (c) (1), as amended, 42 U.S.C. section 2437 (c) (1).
- b. Resource Conservation and Recovery Act (RCRA), 42 U.S.C., sections 6901-6992.
- c. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C., sections 9601-9675.
- d. Chief Financial Officers (CFO) Act of 1990, 5 U.S.C., sections 5313-5315.
- e. Statement of Federal Financial Accounting Standards No. 5, Accounting for Liabilities to the Federal Government, Related to Cleanup, September 1995.
- f. Statement of Federal Financial Accounting Standards No. 6, Accounting for Property, Plant, and Equipment, Related to Environmental cleanup costs, June 1996.
- g. NASA Financial Management Requirements, Volume 4, Planning, Programming, Budgeting, and Execution.

- h. NASA Financial Management Requirements, Volume 5, Budget Execution.
- i. NASA Financial Management Requirements, Volume 6, Chapter 9, Environmental Contingent Liabilities.
- j. Government Performance and Results Act of 1993, 31 U.S.C., section 1101.
- k. NPD 1000.0, Strategic Management and Governance Handbook.
- l. NPD 1001.0, 2006 NASA Strategic Plan.
- m. NPR 1441.1, NASA Records Retention Schedules.
- n. NPR 7120.5, NASA Program and Project Management Processes and Requirements.
- o. NPR 8553.1, NASA's Environmental Management System.
- p. NPR 8800.15, Real Estate Management Program Implementation Manual.
- q. NPR 8820.2, Facility Project Implementation Guide.
- r. NPR 8715.3, NASA General Safety Program Requirements.
- s. Federal Financial Accounting and Auditing Technical Release Number 2, Determining Probable and Reasonably Estimable for Environmental Liabilities in the Federal Government.

P.5 Cancellation

None.

/S/

Tom Luedtke
Associate Administrator
for Institutions and Management

Chapter 1. Introduction, ECR Definitions, and Types of Projects ECR Can Fund

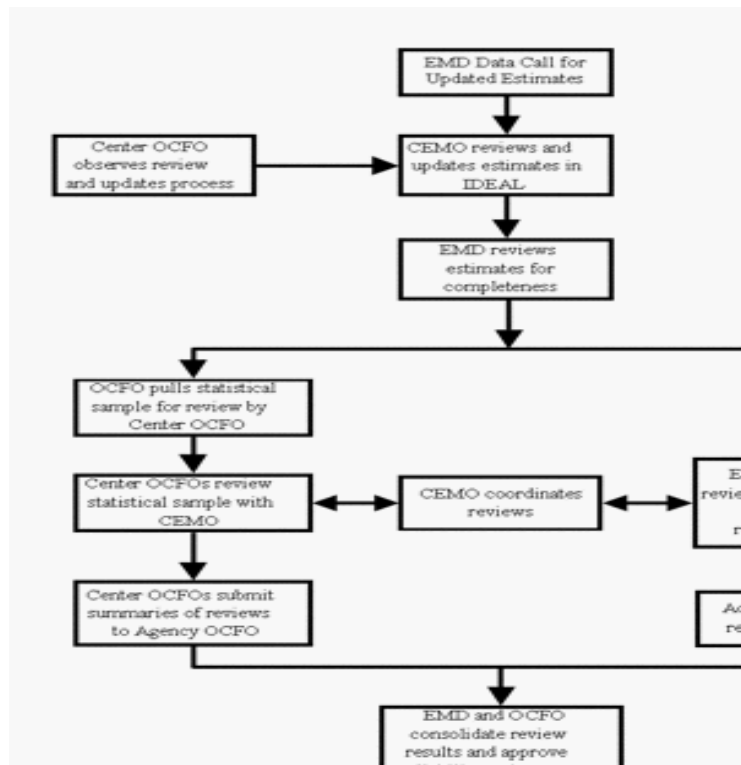
1.1 Introduction

This NASA Procedural Requirement (NPR) implements applicable requirements for the ECR program under NASA Policy Directive (NPD) 8500.1. This NPR addresses specific activities required to request, allocate, and spend funds under that program to manage ECR projects.

Chapter 1 introduces this document and outlines the types of projects that are eligible for ECR funding. Chapter 2 describes the requirements for identifying and documenting new restoration ECR projects. Chapter 3 explains the required procedures for conducting potentially responsible party (PRP) analysis at NASA restoration sites. Chapter 4 discusses the requirements for ECR restoration projects cost estimation process and the use of Integrated Data Evaluation and Analysis Library (IDEAL) cost estimating software to achieve verifiable and adequately documented cost estimates. Chapter 5 addresses the various data calls and review cycles for requesting ECR project funding and the use of the NASA Environmental Tracking System (NETS). Chapter 6 addresses the requirements for managing restoration projects. Chapter 7 covers ECR program metrics. See figure 1-1 below for a graphic representation of these chapters.

In this document, a requirement is identified by "shall," permission by "may" or "can," expectation by "will," and descriptive material by "is."

Figure 1-1 Process for Identifying and Funding Projects



1.2 Types of ECR Project

The ECR program funds several different types of environmental projects. Funding is limited to restoration projects and Environmental Management Investment (EMI) projects. EMI projects consist of capital compliance projects, leadership projects, nonroutine projects to evaluate changing environmental requirements and may include any preanalysis or studies to support those projects.

1.2.1 Restoration Projects

a. Investigation and restoration required under Federal and/or state or local laws, or other legally enforceable agreements, at NASA-owned or -operated property generally will be ECR-funded. Investigation costs may include sampling, analysis, monitoring, modeling expenses, and PRP study costs. Restoration costs may include containment, cleanup, environmental closures (including tanks, landfills, and other environmentally regulated facilities or units), attenuation, land-use controls, oversight fees, purchase of land parcels, long-term operations and maintenance (O&M), and provision of alternate drinking or potable water supplies, if required.

b. Investigation of alleged migration off-site of contamination from NASA property and evaluation of remedial alternatives for such migration are eligible for ECR funding.

1.2.2 Environmental Management Investment (EMI) Projects

a. ECR funding may also be available for funding environmental investment projects that are not considered "routine" (i.e., not part of normally required activities). EMI projects can be either capital compliance or leadership projects and infrequently may include projects that will provide for environmental studies needed to evaluate changing regulatory requirements or to better define the project. Typically, these projects are the result of changing environmental regulations or requirements.

b. Capital compliance projects that deal with infrastructure improvements (such as boiler retrofits required to meet revised Clean Air Act standards) shall follow NPR 8820.2, Facility Project

Implementation Guide as a "Non-Construction of Facilities (CoF) Funded" project. The assigned Facility Project Manager shall submit any documentation required by

NPR 8820.2 to the Headquarters Environmental Management Division (EMD) and the Facilities Engineering and Real Property Division. Additionally, capital compliance projects that deal with infrastructure improvements shall follow NPR 8800.15, Real Estate Management Program Implementation Manual. Centers/Component Facilities shall submit documentation for improvements and modifications to NASA real property as required by NPR 8800.15. This documentation is required to ensure that NASA properly records the value of its real property.

c. Leadership projects (such as Principal Center and sustainability projects) may be funded on a case-by-case basis as determined by the Headquarters EMD. Leadership projects (such as Principal Center and sustainability projects) promote zero-waste strategic thinking, reinforce sustainability or eco-effectiveness ethos, or support achieving the "Greening of the Government" goals and objectives.

1.2.3 Projects Not Eligible for ECR Funding

a. Environmental compliance projects to address facility deferred maintenance, obsolescence, or replacement.

b. Future closure or decommissioning of active facilities or routine, day-to-day operational environmental compliance costs (per Statement of Federal Financial Accounting Standards No. 6, Accounting for Property, Plant, and Equipment, related to environmental cleanup costs).

c. Program-related environmental compliance costs (e.g., NEPA documentation).

d. Environmental compliance elements of a facility-related project such as asbestos and lead-based paint removal are elements of CoF or demolition projects. ECR will address remediation of these materials if already released to the environment.

e. Replacement of tanks at end of useful life.

f. Building demolition and asbestos abatement.

g. Capital compliance projects less than \$200,000.

1.2.4 Claims Against NASA for Third-Party Liabilities.

a. Claims against NASA for third-party damages resulting from environmental contamination are coordinated, through the NASA Office of the General Counsel, with the Department of Justice.

b. ECR funds are not generally available for payment of awards or settlements associated with such claims.

Chapter 2. Identification and Documentation of New Restoration Projects

2.1 Purpose

To identify and document new restoration projects for ECR program funding.

2.2 Requirements

a. Center/Component Facility Environmental Management Offices (CEMO) shall establish a process for applying due care in identifying and assessing sites with known or suspected contamination on their property. This process shall include proactive and/or reactive activities that are supportive of Center and regulatory requirements. Some of these activities include: on-site investigations, file reviews, and research into historical operations that can confirm the nature and extent of environmental contamination. The process shall include the maintenance of appropriate documentation and any required reporting to regulatory officials.

b. CEMOs shall evaluate identified sites to determine whether they will require future study and/or restoration activity. These projects shall be categorized as "Probable," "Reasonably Possible," or "Remote" based on the likelihood of future financial obligations.

c. NASA will recognize a new restoration project if the CEMO determines it is probable that the release (or threatened release) of a hazardous substance could be an endangerment to human health or the environment. That determination may involve interaction with regulatory officials during studies, assessments, investigations, or other stages in the restoration process. In addition, the CEMO shall determine if the project is reasonably estimable, meaning that the future costs of study and/or restoration can be estimated at this time. Generally, that criteria is determined by three factors:

(1) Completion of a Remedial Investigation/Feasibility Study (RI/FS), or equivalent.

(2) Experience with similar site and/or conditions.

(3) Availability of restoration technology. If the CEMO determines that these criteria have been met, it shall open a project for the site in NETS.

d. For new sites that will probably require future study and/or restoration activities (categorized as "Probable"), the CEMO shall develop an estimate of those costs in accordance with Chapter 4, using the IDEAL Cost Estimating System software.

e. Sites for which the chance of future restoration activities being required is more than remote, but less than probable (categorized as "Reasonably Possible"), shall be reported annually to NASA Headquarters for disclosure as contingent liabilities. For each "Reasonably Possible" site, the CEMO shall report, at a time and in a format as specified by the HQ EMD, the nature of the contingency,

provide an estimate (or range of estimates) of the possible liability, or provide a statement that such an estimate cannot be made. Estimates shall be prepared using the IDEAL Cost Estimating System software program (see Chapter 4) or manual cost estimating methods.

f. Center's legal and real property staff shall be involved as soon as it is determined that a right-of-entry onto adjacent land is necessary to determine the extent of contamination.

g. CEMOs shall complete a PRP analysis, in accordance with the requirements of Chapter 3, on new sites that meet the criteria outlined in that chapter.

2.3 Roles and Responsibilities

2.3.1 NASA Headquarters Environmental Management Division The Headquarters EMD serves as the governing authority and is responsible for:

- a. Approving new ECR projects.
- b. Prioritizing ECR funding across all NASA Centers/Component Facilities.
- c. Reviewing and approving negotiated compliance agreements for ECR projects and any negotiated changes to those compliance agreements.
- d. Referring negotiated compliance agreements to appropriate Headquarters offices for concurrence.

2.3.2 NASA Center/Component Facility Environmental Management Office

The CEMO is responsible for:

- a. Establishing a process to respond to and investigate reports of releases and contamination on NASA property or for which NASA may be responsible.
- b. Determining the following: (1) the probability of the necessity for study and/or restoration, including the need to access properties not owned by NASA, to determine the extent of the contamination.
(2) whether the associated restoration costs can be estimated.
- c. Consulting with the Center Chief Counsel's Office and Real Property staff in carrying out the CEMO's responsibilities under this NPR. This includes involving the Chief Counsel's Office as soon as it is determined that a right-of-entry onto adjacent land is necessary to determine the extent of contamination.
- d. Determining, and coordinating with regulatory agencies, as required, the cleanup standards for the site. Cleanup discussions are often based on land use, public comments, or other local site-specific factors.
- e. Referring negotiated compliance agreements for site restoration and any changes to those agreements, requiring ECR funds that will exceed the Center's total budget guideline by \$250,000 or more, to the Headquarters EMD for concurrence.
- f. Conducting PRP analysis (see Chapter 3 below).
- g. Estimating the costs of new ECR projects using the IDEAL Cost Estimating System software program (see Chapter 4), documenting the basis for the cost estimate, and ensuring that corresponding cost data are entered into NETS.

- h. Entering new ECR projects into NETS (see Chapter 5) including total project cost estimate and any other required information.
- i. Coordinating with the Center/Component Facility Safety and Mission Assurance Office, as needed, to ensure a safe and healthful workplace.
- j. Coordinating with the Chief Health and Medical Officer's staff, as needed, on projects with potential impacts to the health of employees.
- k. Coordinating with Center/Component Facility Office, as needed, to mitigate impacts on ongoing or planned construction projects.
- l. Coordinating with Center/Component Public Affairs Office, as needed, to address any local community concerns.
- m. Coordinating through the HQ Office of Legislative and Intergovernmental Affairs and the Headquarters EMD for any contact with members of Congress.

Chapter 3. Potentially Responsible Party (PRP) Analysis

3.1 Purpose

To provide a consistent approach for NASA Centers/Component Facilities to identify PRPs and develop cost-sharing or cost-recovery arrangements with the PRPs for the investigation and restoration of contaminated sites on NASA Centers/Component Facilities.

3.2 Requirements

a. A PRP analysis is required for any ECR restoration project that meets any of the following criteria:

- (1) Is included on a Federal, national, or state priority list.
- (2) Contamination may be due to activities of former site owners or operators other than NASA or NACA.
- (3) Contamination occurs on property jointly owned by NASA and any other entity.
- (4) Contamination is migrating onsite from neighboring property.

b. Where NASA clearly is the only responsible party for contamination at a site, or the contamination solely is due to petroleum, or there is no information available that can be used to identify PRPs, further PRP analysis is not required. For sites that meet these criteria, the CEMO, in consultation with the Center Chief Counsel's Office, shall document the determination that additional PRP analysis is not required and report the results to the Headquarters EMD with copies furnished to the NASA Office of the General Counsel.

c. To minimize potential conflicts of interest, the CEMO shall not utilize existing or former owners, operators, or contractors that are possible PRPs to perform the PRP analysis. Likewise, a contractor that performed the environmental baseline surveys (EBS) for property acquired by NASA shall not be used to conduct a PRP analysis for contamination on that same property.

d. The CEMO shall fully coordinate the conduct of any PRP analysis with the Chief Counsel's Office at the Center. The CEMO and Chief Counsel's Office shall coordinate to ensure that privileged documents or materials are segregated from releasable documents or materials.

e. The PRP analysis shall include a PRP search. The PRP search shall consider, but may not be limited to, former owners and operators, contractors, tenant organizations, neighboring parties, or other Government entities. The PRP search may include, among other things, interviews with employees, former employees, regulatory personnel, and other potentially knowledgeable persons, as well as a review of EBS, contract documents, property records, regulatory information, and other

data and information, as appropriate. The CEMO shall document the PRP search and its results.

f. Documentation shall describe the files reviewed and records collected. Relevant records may include correspondence, recordings, photographs, computer tapes, drawings, technical data and reports, hazardous waste manifests, shipping papers, notices of violations, complaints, investigations, prior site owner or operator records, chain of title, and records of current business and financial status of PRPs.

g. As part of the PRP analysis, the CEMO, jointly with the Chief Counsel's Office at the Center, shall evaluate the potential for cost-sharing or cost-recovery arrangements with any PRPs identified. The CEMO shall document the results of the evaluation. Factors to be considered may include, but are not limited to, the following:

- (1) Former land ownership.
- (2) Operator status (including, to the extent possible, detailed description of relative operational responsibilities and standard operating procedures).
- (3) Extent of NASA versus PRP control of the activity.
- (4) Contract terms.
- (5) Completeness of records.
- (6) Legal constraints.
- (7) Site characteristics.
- (8) Amount recoverable in comparison to cost of recovery (based on the Center/Component Facility's best estimate of the relative degree of responsibility of the PRPs).

h. Based on the PRP search and the cost-sharing or cost-recovery evaluation, the Center/ Component Facility shall determine the advisability of pursuing negotiations with some or all of the PRPs. The Center Director shall forward the PRP analysis and its recommendations to the Headquarters EMD with copies furnished to the NASA Headquarters Chief Financial Officer, the Office of the General Counsel, and the Office of Procurement. The Office of Procurement is responsible for reviewing PRP analyses involving current NASA contractors for potential impacts to contract performance, cost, or schedule. The Headquarters EMD shall provide a response to the PRP analysis within 30 days of receipt of the PRP analysis at Headquarters.

i. Unless contrary direction is received from the Headquarters EMD as a result of the 30-day review period, the Center/Component Facility, through the Center Chief Counsel's Office, the Office of the General Counsel, and the Department of Justice, may formally notify the PRPs and initiate negotiations for cost sharing or cost recovery. Cost-sharing arrangements (e.g., PRPs pay restoration contractors directly for their share of the cleanup or restoration measure) are preferred, if reasonable, relative to cost recovery.

j. The Center Director shall submit proposed agreements to the Headquarters EMD for approval. The Headquarters EMD shall coordinate with the Chief Financial Officer and the General Counsel. Upon fulfillment of these requirements, the Center Director has the authority to enter into the agreement for NASA.

3.3 Roles And Responsibilities

3.3.1 Assistant Administrator for Infrastructure and Administration

The Assistant Administrator for Infrastructure and Administration is responsible for:

- a. Reviewing PRP analyses and concurring on proposed agreements to ensure completeness and adherence to this NPR.

3.3.2 NASA Headquarters General Counsel

The NASA Headquarters General Counsel is responsible for:

- a. Reviewing PRP analyses and concurring on proposed agreements forwarded by the Headquarters EMD.
- b. Serving as the designated liaison with the Department of Justice on all efforts requiring the involvement of the Department of Justice.
- c. Providing support to the Center Chief Counsel's Office, as appropriate.

3.3.3 NASA Chief Financial Officer

The NASA Chief Financial Officer is responsible for:

- a. Reviewing PRP analyses, concurring on proposed agreements forwarded by the Headquarters EMD for adherence to financial management requirements relevant to cost-sharing or cost-recovery arrangements, and assessing potential impacts to funding.

3.3.4 NASA Headquarters Environmental Management Division

The Headquarters EMD is responsible for:

- a. Reviewing PRP analyses, approving proposed agreements, coordinating reviews of proposed agreements with the other appropriate Headquarters offices, and responding to PRP analyses and recommendations submitted by Centers/Component Facilities.

3.3.5 NASA Center/Component Facility Environmental Management Office

The CEMOs are responsible for:

- a. Completing and documenting PRP analyses in accordance with this NPR.
- b. Coordinating PRP analyses with the Center Chief Counsel's Office.
- c. Designating a Center/Component Facility official with overall responsibility for coordinating the Center/Component Facility's efforts to identify PRPs.
- d. Designating a Center/Component Facility official for leading negotiations with PRPs when appropriate. The Center/Component Facility negotiator shall, in consultation with the Center Chief Counsel's Office, have broad discretion to conduct negotiations relevant to site-specific cost-sharing or cost-recovery arrangements, since the success of negotiations is likely to depend on specific site conditions and the individual PRPs. The Center/Component Facility negotiator shall consult with the Center Chief Counsel's Office throughout the negotiations.

For the Jet Propulsion Laboratory, the NASA Management Office (NMO) represents Headquarters as the parent Center for satisfying the requirements of this NPR. As such, the NMO has the responsibilities of the Center Environmental Office.

3.3.6 Center Chief Counsel's Office

The Center Chief Counsel's Office is responsible for:

- a. Coordinating the conduct of any PRP analyses at the Center/Component Facility.
- b. Ensuring that privileged documents or materials are segregated from releasable documents or materials.
- c. Consulting with the Center/Component Facility negotiator regarding cost-sharing or cost-recovery negotiations.
- d. Consulting with the Office of the General Counsel as appropriate, including, when necessary, coordinating PRP analyses or negotiations with the Department of Justice.

Chapter 4. Cost and Unfunded Liability Estimation

4.1 Purpose

Provide a consistent, replicable procedure for estimating the costs of restoration projects and other projects eligible for ECR funding. Develop cost estimates for restoration activities that can be used as inputs for NASA's financial statements.

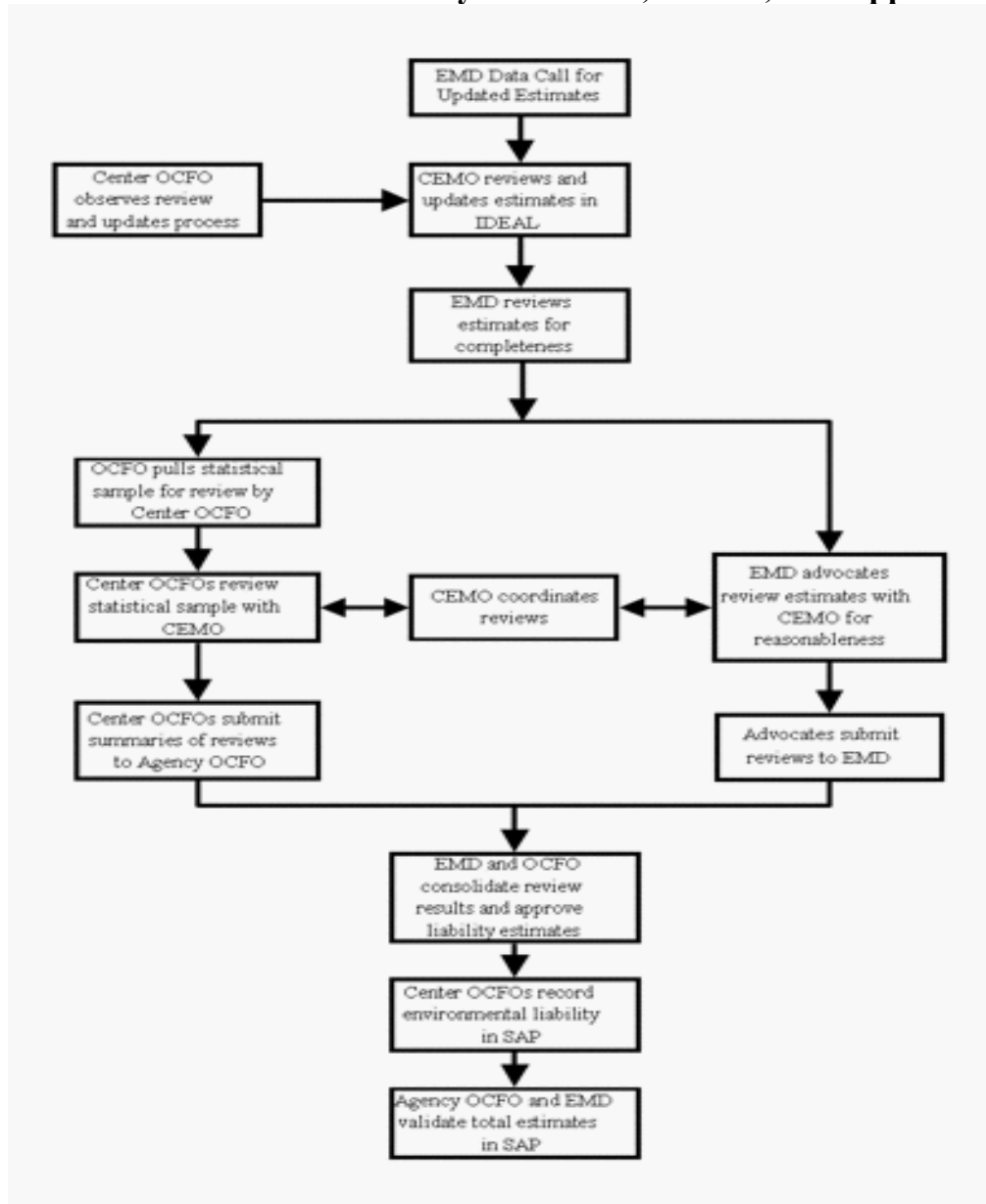
4.2 Requirements

- a. Restoration project cost estimates shall be performed using IDEAL.
- b. Cost estimates shall include contractor costs, materials, equipment, energy, contingency, applicable contract fees, and burdens.
- c. Cost estimates recorded in IDEAL that are used for financial statement purposes are subject to audit. The CEMO and other NASA organizations that prepare remediation project cost estimates shall retain adequate documentation to identify data sources, estimating methods, and rationales for assumptions and decisions employed to derive the cost estimate. Documentation of changes in assumptions from prior years' estimates shall be provided. Any changes or revisions to the estimate and the reasons for those changes/revisions shall also be noted in the estimate. Documentation of management reviews shall also be retained. Any estimate produced shall be based on site-specific information, engineering estimates, or validated cost models.
- d. For EMI projects, the CEMO shall provide a cost estimate either using IDEAL or an equivalent cost estimating system. If the project involves facility construction, life-cycle cost analysis is required under NPR 8820.2 (Chapter 3.16) Facility Project Implementation Guide.
- e. The CEMO is the official repository for all records, both electronic and hardcopy, to support cost estimates for environmental restoration projects. Cost estimates and supporting documentation shall be retained in accordance with the NASA Records Retention Schedules (NRRS) for NASA Accounting and Financial Information Systems, specified in NPR 1441.1, Chapter 9, NRRS 9. Program management documentation for cleanup projects undertaken under TSCA, CERCLA, and RCRA and official records of compliance agreements shall be retained in accordance with the records retention schedules specified in NPR 1441.1 Chapter 8, NRRS 8.

4.2.1 The Unfunded Environmental Liability Estimation, Review, and Approval Process

The cost estimate serves as the liability estimate for restoration projects. Liability estimates follow two distinct (and often parallel) paths to completion. The Headquarters Office of the Chief Financial Officer (OCFO) as well as the Headquarters EMD work in tandem to reach consensus on the final Agency Unfunded Environmental Liability Estimate. The following flow chart depicts the various steps taken by each party (see Figure 4-1).

Figure 4-1:
The Unfunded Environmental Liability Estimation, Review, and Approval Process



4.3 Roles and Responsibilities

4.3.1 NASA Headquarters Office of the Chief Financial Officer

The Office of Chief Financial Officer is responsible for:

- Providing guidance and policy on the estimation of unfunded environmental liabilities.
- Providing direction to Center Offices of the Chief Financial Officer on review of estimates.
- Coordinating with the Headquarters EMD on approval of estimates and developing a summary of Agency unfunded liability estimate.
- Directing Center Offices of the Chief Financial Officer to record liability estimates in NASA's financial management system.

e. Recording and preparing the unfunded environmental liability and contingent liability information in the financial statements and providing input for preparing necessary disclosures in the footnotes to the financial statements.

4.3.2 NASA Headquarters Environmental Management Division

The Headquarters EMD is responsible for:

- a. Providing guidance and direction on the estimation of liability and costs to Center Environmental Management Offices.
- b. Ensuring that IDEAL training and software are made available to personnel responsible for ECR project cost estimation.
- c. Initiating data calls at midyear and year end to Centers to update their liability estimates.
- d. Facilitating the sharing of experiences and information among Centers/Component Facilities so that IDEAL cost estimates for similar projects at different locations can be developed consistently.
- e. Providing independent quality assurance to review estimates for errors and adequacy of documentation.
- f. Performing management reviews of ECR program projects cost estimation.
- g. Developing estimate for civil servant labor required to implement the ECR program.
- h. Developing a closure liability estimate for removing tanks from service at the end of their useful life.
- i. Gathering and summarizing contingent liability information during the liability estimate review process.

4.3.3 NASA Center/Component Facility Environmental Management Office

The CEMO is responsible for:

- a. Ensuring that every Restoration Project funded by the ECR program has a cost estimate in IDEAL that meets the definition of probable and reasonably estimable. Estimates may use IDEAL's parametric estimation capability or be created with a User Defined Estimate, based on external documentation.
- b. Providing notice to the Headquarters EMD of any liabilities that are reasonably possible but are either not probable or not reasonably estimable. Notice shall be in the format specified by HQ.
- c. Ensuring that mark-ups and contingencies are based on Center-specific factors to reflect anticipated actual costs to complete the project.
- d. Ensuring that cost estimates are prepared only by ECR Project Managers who have been trained in accounting standards for liability estimates.
- e. Ensuring that ECR Project Managers use consistent approaches and assumptions for different projects at the Center/Component Facility along with considering Center/Component Facility-specific factors.
- f. Ensuring retention of documentation of all ECR cost estimates until funding is no longer needed (unless additional retention time is required by law or NPR 1441.1).
- g. Documenting the rationale(s) for all assumptions and decisions used to derive a cost estimate and

maintaining documentation for cost estimates for reasonably possible sites/facilities including rationales for applications of any contingencies. All parameters used in IDEAL cost estimates, other than the IDEAL default values, require supporting documentation.

h. Determining cleanup levels based upon mission needs, site-specific factors, current and future land uses, risk evaluation, negotiations with regulators, and/or public comments.

i. Ensuring that any and all leaking storage tanks are identified as a project and have a liability estimate associated with that project. For regulated tanks that are not leaking, closure liability estimates associated with removing tanks from service at the end of their service lives will be estimated at the Agency level.

j. Updating the cost estimate and preparing supporting documentation at the end of the year in the event of the following:

(1) Any change in liability estimate in excess of \$200,000.

(2) New site information (e.g., scope changes, additional contamination identified).

(3) Unexpected performance of restoration technology/option (e.g., soil vapor extraction is removing contaminants more or less effectively and expeditiously than expected).

(4) Scheduling changes (e.g., site delays).

(5) Regulatory actions (e.g., Federal, state, or local regulators determine that no further action is necessary at a site).

(6) New or revised regulations (e.g., more stringent requirements for a specific contaminant may require extended cleanup operations).

(7) Improvements in technologies for assessment and treatment.

k. Identifying potential contingent liabilities.

l. Sharing lessons learned with HQ and other Centers/Component Facilities.

4.3.4 NASA Center Office of the Chief Financial Officer

The Center Office of the Chief Financial Office is responsible for:

a. Reviewing IDEAL estimates prepared by the CEMO to ensure conformance with generally accepted accounting principles.

b. Reviewing IDEAL estimates for reasonableness and whether the estimate can be supported by documentation. Scope of review is defined by the Agency Office of the Chief Financial Officer.

c. Processing approved estimates in the NASA financial management system.

Chaper 5. ECR Program Funding

5.1 Budget Formulation Via The Planning, Programming, Budgeting, And Execution System (PPBE)

5.1.1 Purpose

To provide the Office of Program Analysis and Evaluation (PA&E) and the Office of the Chief Financial Officer (OCFO) with updated information on prior and current fiscal years and input for development of NASA's five-year budget requests consistent with the requirements, roles, and responsibilities established by NASA FMR Volume 4, Planning, Programming, Budgeting, and Execution.

5.1.2 Requirements

- a. PPBE submissions will be developed in accordance with FMR Volume 4 and include only requests that can reasonably be executed and requests that cannot be deferred due to schedules in compliance agreements and the Center/Component Facility objectives and targets.
- b. PPBE submissions shall represent appropriate projects as defined in section 1.2.
- c. PPBE submissions shall distinguish between restoration projects and EMI projects (e.g., capital compliance, environmental management, and sustainability projects).
- d. PPBE submissions shall be acceptable in terms of:
 - (1) Scope -- projects shall be properly fundable under ECR.
 - (2) Costs -- restoration projects costs shall be justified by their IDEAL estimates.

5.1.3 Roles and Responsibilities

5.1.3.1 NASA Headquarters Environmental Management Division

The Headquarters EMD is responsible for:

- a. Providing ECR Program guidance to Centers/Component Facilities in the second quarter of the fiscal year to support FMR Volume 4 PPBE requirements and annual guidance issued by PA&E and OCFO.
- b. Reviewing Center/Component Facility submittals for acceptability.
- c. Negotiating submittals with the CEMOs.
- d. Developing guidelines for budget year.
- e. Determining project priorities.
- f. Presenting final PPBE submission to the NASA Environmental Management Panel.
- g. Providing final PPBE submission to the OCFO.
- h. Presenting the ECR budget to NASA Operations Management Council.

5.1.3.2 NASA Center/Component Facility Environmental Management Office

The CEMO is responsible for:

- a. Nominating project(s) for the budget period in accordance with PPBE guidance.
- b. Responding to questions and negotiating PPBE submittals with the Headquarters EMD.

5.2 Spend Plan

5.2.1 Purpose

To determine Center/Component Facility budget authority for upcoming fiscal year (plus six subsequent years) and to manage available funds over approved projects. See the following Figure 5-1, Funding Time-Line for details.

5.2.2 Requirements

Budget Execution Spend Plan Requirements are as follows:

- a. The Spend Plan shall not exceed the total ECR funding guideline amounts allocated to the Center/Component Facility.
- b. All restoration projects in the Spend Plan shall have an IDEAL cost estimate and the required NETS data.
- c. Each Center/Component Facility Spend Plan shall reflect amounts uncommitted/carried over from the prior year. Funds not committed by the end of the fiscal year (September 30) will be treated as a dollar-for-dollar advance on the next year's funding. That effective reduction may be restored, but shall compete with other program requirements for available funding.
- d. The CEMO has the authority to move approved restoration funds across approved restoration projects without seeking the Headquarters EMD permission. The CEMO, however, shall seek the Headquarters EMD permission to move approved EMI funds across approved EMI projects, apply restoration funds to EMI projects, or apply EMI funds to restoration projects.
- e. A midyear review will be conducted by the Headquarters EMD to afford an opportunity to reallocate ECR funding (e.g., across Centers/Component Facilities) to respond to events that were not anticipated when the Spend Plans were developed and approved. To perform this function, current data will be required regarding each Center's/Component Facility's progress in using approved funds, latest spending plans, potential for unspent funds, and/or need(s) for additional funds.

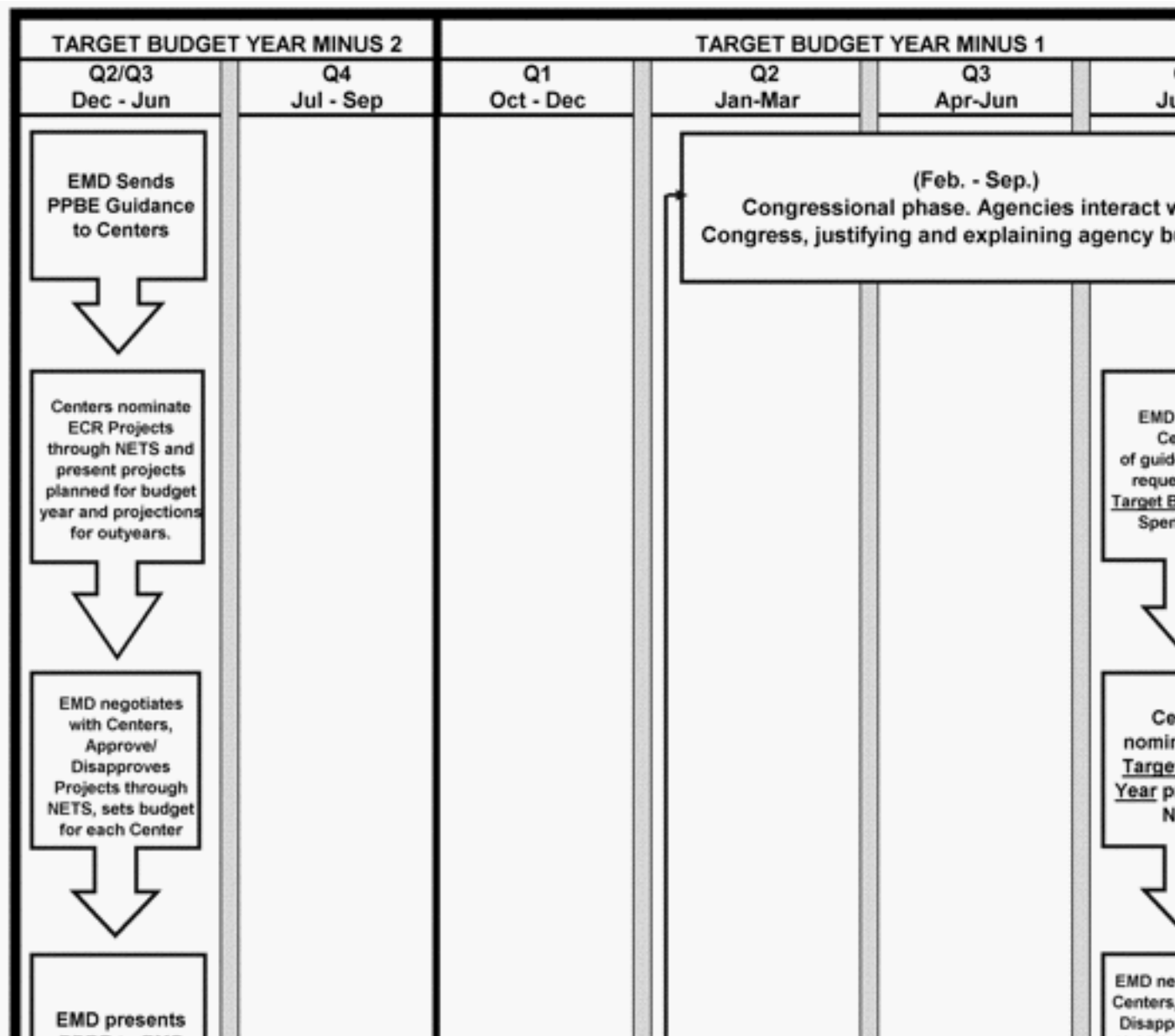


Figure 5-1 Funding Time-Line

5.2.3 Roles and Responsibilities

5.2.3.1 NASA Headquarters Environmental Management Division

The Headquarters EMD is responsible for:

- Issuing a call for Center/Component Facility Spend Plans for the upcoming fiscal year.
- Reviewing Centers/Component Facilities draft Spend Plans for current year, plus five budget years.
- Preparing a fiscal year-end report for each Center/Component Facility that includes:
 - Spend Plan targets (Restoration and EMI projects) for the completed fiscal year.
 - Total amounts committed and uncommitted amounts carried over.
- Meeting with Centers/Component Facilities after the start of the new fiscal year to review progress during the just-completed fiscal year, status of major projects, and upcoming changes in priorities and funding levels for the new fiscal year.
- Negotiating funding levels with the CEMO and signing final Spend Plan Agreements for the new fiscal year.

- f. Preparing required documents to issue funds on the approved Spend Plans after the Federal budget has been enacted and funds have been made available to the Agency.
- g. Responding to Center/Component Facility requests during the fiscal year to move funds between restoration and EMI projects that requires approval and a modification to the Spend Plan.
- h. Reviewing Spend Plan execution progress at midyear with the CEMO or designated Restoration Project Managers and adjusting the Spend Plan accordingly, including conforming changes in NETS.

5.2.3.2 NASA Center/Component Facility Environmental Management Office

The CEMO is responsible for:

- a. Submitting a draft Spend Plan during the last quarter of the current fiscal year for the upcoming fiscal year via NETS (see NETS requirements in Chapter 5) that fits within the total requirements cap (fundable amount) and includes anticipated carryovers from the current fiscal year.
- b. Responding to the Headquarters EMD questions about the draft Spend Plan.
- c. Meeting with the Headquarters EMD after the start of the new fiscal year to review progress during the just-completed fiscal year, status of major projects, and upcoming changes in priorities and funding levels for the new fiscal year.
- d. Negotiating funding levels with the Headquarters EMD and signing the final Spend Plan Agreement for the new fiscal year.
- e. Justifying any requests during the fiscal year to move funds between restoration and EMI projects that require a modification to the Spend Plan.
- f. Meeting with the Headquarters EMD for the midyear review to discuss Spend Plan execution progress for that fiscal year and the desirability of adjusting the Spend Plan.
- g. Managing funds within approved restoration projects to maintain Center/Component Facility compliance with required project/compliance schedules and accomplish Center/Component Facility environmental objectives and targets.
- h. Revisiting Spending Plans for the current year during the third quarter of the fiscal year, determining progress at each site, and the potential for unspent funds with the Center/Component Facility ECR Program Manager.
- i. Preparing a draft Spend Plan for the upcoming fiscal year for each site through NETS, using IDEAL for estimating project costs.
- j. Documenting annual spending at fiscal year-end, project status, and changes in project cost estimates, using IDEAL for estimating project costs.
- k. Responding to Spend Plan data/update calls from Headquarters as received.

5.3 NASA Environmental Tracking System (NETS)

5.3.1 Purpose

NETS supports the ECR Program by allowing Centers/Component Facility Environmental Offices to enter data for ECR projects and Spend Plans. NETS also enables the Headquarters EMD to approve/disapprove projects nominated by the Centers/Component Facilities and to formalize an agreement on Spend Plans.

5.3.2 Requirements

- a. Proposed/nominated projects (restoration or other) shall be entered into NETS with anticipated start and completion dates, a cost estimate (using IDEAL for restoration projects), a description, an environmental justification, and any other required information.
- b. The final part of the project work breakdown structure (WBS) shall be entered only after the Headquarters EMD has approved the project.
- c. The cost estimate for restoration projects in NETS shall correctly reflect the latest IDEAL cost estimate.

- d. The CEMO shall submit draft Spend Plans via NETS.
- e. The CEMO shall document movements of approved restoration funds across approved restoration projects by editing the Spend Plan figures in NETS for the midyear review.
- f. The CEMO shall document movements of restoration funds to approved EMI projects (or vice versa) by editing the Spend Plan in NETS after Headquarters approval.

5.3.3 Roles and Responsibilities

5.3.3.1 NASA Headquarters Environmental Management Division The Headquarters EMD is responsible for:

- a. Approving or disapproving projects nominated in NETS by the CEMO.
- b. Programming approved projects in NETS for funding priority.
- c. Verifying that Center/Component Facility proposed Spend Plans in NETS correspond to guideline amounts.
- d. Approving or disapproving over guideline requests in NETS.

5.3.3.2 NASA Center/Component Facility Environmental Management Office

The CEMO is responsible for:

- a. Determining which new projects to enter into NETS, the funding priorities for projects already in NETS, and which ECR projects to close in NETS.
- b. Submitting the draft Spend Plan via NETS and editing the draft to reflect the final Spend Plan Agreement for the new fiscal year.
- c. Editing the final Spend Plan in NETS for the midyear review to document any movements of funds across approved restoration projects.
- d. Editing the final Spend Plan in NETS to document movement of funds from restoration to EMI projects (or vice versa) as approved by the Headquarters EMD.
- e. Opening new project records in NETS and supplying all required information.
- f. Basing the cost estimate for restoration projects in NETS on IDEAL.
- g. Entering the final part of the project WBS after the Headquarters EMD has approved the project.
- h. Adjusting the cost estimate in NETS to conform whenever the IDEAL cost estimate for a restoration project changes.

Chapter 6. Procedures for Managing ECR Restoration Projects

6.1 Purpose

Ensure that restoration projects are properly managed to completion.

6.2 Requirements

NASA will comply with all legal requirements in managing restoration projects.

6.3 Roles and Responsibilities

6.3.1 NASA Headquarters Environmental Management Division

The Headquarters EMD serves as the governing authority and is responsible for:

- a. Keeping up-to-date on Federal and state statutes, regulations, and Executive orders that might apply to NASA restoration projects.
- b. Reviewing and concurring with negotiated compliance agreements for site restoration and any negotiated changes to those compliance agreements that require additional ECR funding that will exceed the Center/Component Facility's budget guideline by \$250,000 or more.
- c. Budgeting for and funding restoration projects.
- d. Providing leadership, program advice and direction, and program technical assistance to Centers and Component Facilities.
- e. Compiling Agency-level reports, inventories, and statistics based on NASA Center/Component submissions.
- f. Providing guidance to NASA Centers/Component Facilities on programming and budgeting for environmental restoration projects.
- g. Providing the lead assistance role in the preparation of the ECR Program budget and responses to Congressional inquiries.

6.3.2 NASA Center/Component Facility Environmental Management Office

The CEMO is responsible for:

- a. Developing, implementing, and maintaining procedures for the identification of applicable Federal, state, local, facility-specific, and permit-driven legal requirements and proposed changes to legal requirements for restoration projects.

- b. Ensuring that applicable legal and other requirements for restoration projects are available to appropriate individuals and to Headquarters offices when requested.
- c. Providing information, identified under section a above, to the Headquarters EMD when requested.
- d. Complying with all applicable Federal, state, local, facility-specific, and permit-driven requirements for managing NASA's restoration projects.
- e. Conducting periodic reviews of compliance or compliance audits that include management of restoration projects in their scope.
- f. Referring negotiated compliance agreements and negotiated changes to the Headquarters EMD for approval.
- g. Ensuring that Center/Component Facility Restoration Project Managers have reviewed the appropriateness of cost estimates in NETS at least twice during any fiscal year for their ECR restoration projects.
- h. Periodically ensuring that Center/Component Facility Restoration Project Managers apply consistent, reasonable, and well-documented assumptions when estimating future (unfunded) costs across Center/Component Facility restoration projects.
- i. Ensuring that NASA Full Time Equivalent, onsite contractor Work Year Equivalent labor, travel, and General and Administrative (G&A) costs are properly allocated to ECR projects and conveyed to the CFO.
- j. Updating cost estimates for their projects using the IDEAL software, applying consistent, reasonable, and well-documented assumptions across their projects when requested by the Headquarters EMD.
- k. Updating cost information for projects in NETS based on results from IDEAL.
- l. Ensuring reasonable progress in restoration and in meeting external compliance agreement requirements and schedules, as well as internal objectives and targets.
- m. Seeking new, cost-effective technologies for studies, restoration, and/or containment.
- n. Negotiating with regulators, when possible, to reduce costs and establish or adjust schedules.
- o. Reviewing contracting options to determine if contract combinations (e.g., combining similar activities at different sites) might result in lower overall cost.

Chapter 7. Metrics

7.1 Purpose

To evaluate the success of the ECR Program and NASA's attainment of its environmental compliance objectives.

7.2 Reporting Requirements

The CEMO shall document and report metrics in accordance with the NASA Headquarters EMS and the schedule established by the Headquarters EMD. Metrics shall include, but not be limited to, the following:

- a. Progress in completing site restorations.
- b. Issuance of Notices of Violations and Unilateral Administrative Orders in connection with NASA's management of onsite restorations.
- c. Completeness and timeliness of responses to Headquarters data calls.
- d. Degree to which approved Spend Plan funds were committed and spent.

7.3 Roles and Responsibilities

7.3.1 NASA Headquarters Environmental Management Division, in consultation with the NASA Environmental and Energy Management Board

The NASA Headquarters EMD, in consultation with the NASA Environmental and Energy Management Board, is responsible for:

- a. Metrics for evaluating NASA's attainment of its overall environmental objectives.
- b. Metrics for evaluating the ECR Program.

7.3.2 NASA Headquarters Environmental Management Division

The Headquarters EMD is responsible for:

- a. Reporting metrics through the Environmental and Energy Management Board, the NASA Operations Management Council, the Government Performance and Results Act process, or other means as established by the Environmental and Energy Management Board.

7.3.3 NASA Centers/Component Facilities Environmental Management Office

The CEMO is responsible for:

- a. Reporting metric results to the Headquarters EMD.

b. Determining corrective actions for addressing nonconformances identified as a result of evaluating and reporting of metrics.

Appendix A: Definitions

Budget Year - The fiscal year for which appropriation requests are made to OMB and the Congress. NASA's budget year starts on October 1 and ends on September 30 and is divided equally into quarter-years.

Capital Compliance projects - A permanent addition to fixed assets of major importance and cost not related to restoration. A capital compliance project could include land acquisition, construction, reconstruction, renovation, demolition, equipment, and studies necessary to perform the actual project.

Center/Component Facility Environmental Management Office (CEMO) - The organization headed by the Center or Component Facility Environmental Manager responsible for environmental issues at the Center or Component Facility.

Center Office of the Chief Financial Officer - The NASA Center organizations that provide for the oversight and financial management of Agency resources relating to programs and operations, ensuring strategic alignment with the Agency's Vision and mission, including all resources aspects of the planning, programming, and budgeting process.

Chief Financial Officers (CFO) Act - The statute that requires improvement in each agency of the Federal Government, of systems of accounting, financial management, and internal controls to ensure the issuance of reliable financial information and to deter fraud, waste, and abuse of Government resources. It also provides for the production of complete, reliable, timely, and consistent financial information for use by the executive branch of the Government and the Congress in the financing, management, and evaluation of Federal programs.

Compliance Agreements - A category of legal decrees that include, but are not limited to, Federal Facility Agreements, Interagency Agreements, settlement agreements, consent orders, and compliance orders and changes to these orders such as Records of Decisions and Statement of Basis. They do not include Federal and state environmental requirements not implemented by compliance agreements, such as cleanup work required under certain RCRA permits that authorize waste treatment operations.

Contingent Liability - (U.S. Standard General Ledger Account 2920) represents the amount that is recognized as a result of a past event where a future outflow or other sacrifice of resource is probable and measurable. A contingent liability should be disclosed in the notes to the financial statements if any of the conditions for liability recognition (probable and measurable) are not met and there is a reasonable possibility that a loss or additional loss may have been incurred. Disclosure should include the nature of the contingency and an estimate of the possible liability, an estimate of the range of the possible liability, or a statement that such an estimate cannot be made.

Cost Recovery - The process of obtaining reimbursement for the costs of remedial activities that have already been performed.

Cost Sharing - The sharing of costs for contemplated remedial activities or the sharing of the work in

performing remedial activities.

Environmental Baseline Survey (EBS) - A review of the operational history of real property to identify potential environmental issues including, but not limited to, hazardous substance activities, equipment containing polychlorinated biphenyls, asbestos-containing materials, underground storage tank systems, wetlands, and floodplains.

Environmental Leadership - Actions that convey NASA's commitment to address environmental risks that may occur in the future.

Environmental Management Panel (EMP) - A panel that advises the NASA Headquarters Environmental Management Division on the research and implementation of environmental programs, issues, and initiatives.

Environmental Management Investment (EMI) Projects - Projects funded by the ECR Program that are not related to restoration. These projects may be actions based solely on changing environmental requirements or issues of Agency-wide concern.

Environmental Objective - An overall environmental goal, arising from the environmental policy, that NASA Centers/Component Facilities set to achieve and which is quantified where practicable.

Environmental Target - A detailed performance requirement, quantified where practicable, applicable to NASA Centers/Component Facilities, that arises from their environmental objectives and needs to be set and met in order to achieve those objectives.

Financial Audit - NASA's estimate of the future cost to remediate all NASA's known ECR restoration projects are reported as the Agency's future unfunded liability on the Agency's financial statements, which are audited annually.

Integrated Data Evaluation and Analysis Library (IDEAL) Cost Estimating System(c) Software - An estimating system that provides the ability to build complex estimates and cost models. IDEAL enables the user to estimate the cost of a project that has not yet been designed or one that is fully designed and planned. It also allows the user to develop a complex cost model or estimate from scratch, or to enter information about a particular project, and be given an option of which method or technology is most cost effective. This program is the system that NASA uses to estimate and document its unfunded ECR projects.

Leadership Project - An Environmental Management Investment (EMI) project that reduces mission risks by improving environmental stewardship. A leadership project could include study, design, and implementation of proactive sustainability practices that correct short-term problems or demonstrate the effectiveness of new approaches and concepts in support of current or future Center operations. Leadership projects promote zero-waste strategic thinking, reinforce sustainability or ecoeffectiveness ethos, or support achievement of "Greening of the Government" goals and objectives.

Legal and Other Requirements - Those requirements that NASA or a Center/Component Facility is regulated to or has committed to meeting. These include Federal, state, and local laws, regulations, ordinances, or policies, the Office of Management and Budget (OMB) circulars, Executive orders, and international obligations (legal). They also include internal standards, Agency agreements, Presidential initiatives, industry codes or practice, contractual obligations, and non-regulatory guidelines (other).

Life-Cycle Costs - Life-cycle costs are the sum of all the costs associated with an asset, or part thereof, including acquisition, installation, operation, maintenance, refurbishment, and disposal costs.

NASA Environmental Tracking System (NETS) - An automated system that Centers, Component Facilities, and Headquarters use to facilitate the planning, budgeting, spending, and approval of ECR projects.

Noncompliance - A failure to meet NASA, Center/Component Facility legal or other requirements.

Office of the Chief Financial Officer - The NASA Headquarters organization that provides for the oversight and financial management of Agency resources relating to programs and operations, ensuring strategic alignment with the Agency's Vision and mission, including all resources aspects of the planning, programming, and budgeting process.

Potentially Responsible Party - A private organization, individual, public agency, or other legal entity that may be liable for the costs of investigating and cleaning up contamination under the jurisdiction of CERCLA.

Planning, Programming, Budgeting and Execution (PPBE) - An Agency-wide methodology for aligning resources in a comprehensive, disciplined, top-down approach that supports the Agency's Vision and mission. It is designed to take an analytical approach to decision-making and focuses on translating strategy into actionable programs and bringing together Agency priorities and strategic outcomes within the Agency's resource constraints. There are four phases in PPBE. The planning phase includes analyzing internal and external conditions, trends, threats, and technologies; examining alternative strategies; and defining long-term strategic goals,

multiyear outcomes, and short-term performance goals. The programming phase encompasses definition and analysis of programs and projects, together with their multiyear resource implications, and the evaluation of possible alternatives. The budgeting phase includes formulation and justification of the budget to OMB and Congress. The execution phase is the process by which financial resources are made available to Agency components and managed to achieve the purposes and objectives for which the budget was approved.

Probable - A determination that at least a 50-percent possibility exists that the new project will require future financial obligations. These projects are considered as reasonably expected and are believed to require remedial action based on available information. Projects determined to be probable will always require a liability estimate if the information required to generate a reliable estimate exists.

Reasonably Estimable - A determination that the outflow of resources that may be required for a project can be reliably quantified in monetary terms.

Reasonably Possible - A determination that a project has a less than 50-percent chance of requiring future financial obligations. These projects may require a footnote disclosure to be prepared, but do not require a liability estimate.

Remote - A determination that a project has a slight chance of future remedial action with little or no financial obligations. Remote projects do not require footnotes or estimates.

Restoration - Measures taken to return a site to preexisting conditions or to otherwise appropriately address or respond to environmental contamination in accordance with applicable legal and other requirements.

Spend Plan - A total fiscal year ECR funding request submitted by a Center/Component Facility Environmental Management Office to the Headquarters EMD for approval.

Third-Party Liabilities - Obligations to compensate non-NASA parties for damages or losses to property or persons associated with contamination.

Unfunded ECR Projects - The sum of all of the cost estimates prepared by Center/Component Facility Restoration Program Managers for not-yet-funded work for approved onsite restoration projects.